



Generals, Colonels & Community

Refactoring DoD Software Development

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"Software code has become central to how the war-fighter is able to conduct missions... DoD must pursue an active strategy to manage its software knowledge base and foster an internal culture of open interfaces, modularity, collaboration, and reuse."

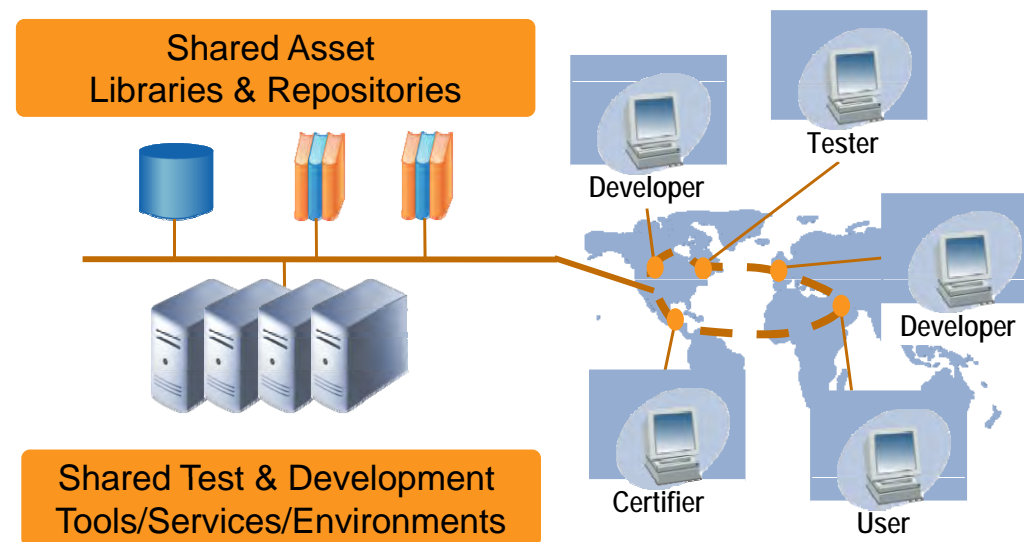
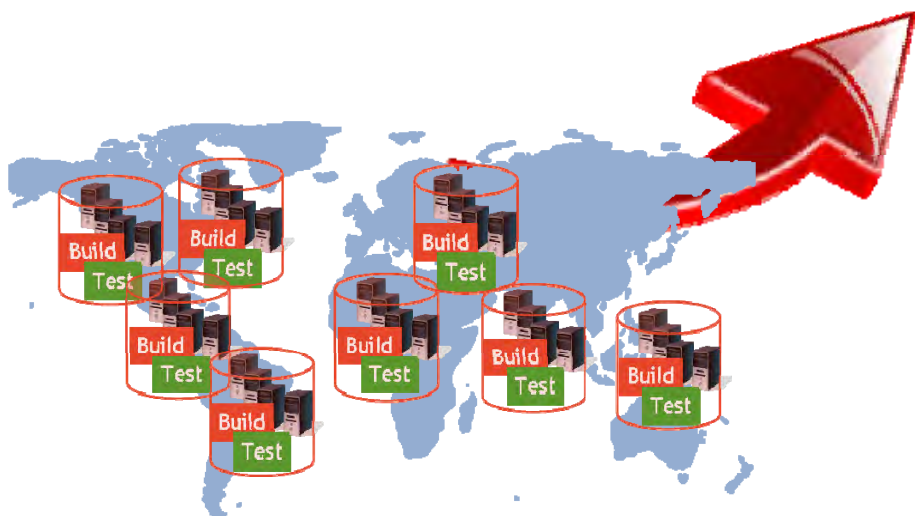
- Open Technology Development Roadmap Plan (April 2006)
- Commissioned by Sue Payton, Asst. Sec for Air Force Acquisition

Forge.mil Vision



TODAY

- Siloed development environments
- Expensive and time consuming start-up
- Limited exposure, sharing, or re-use
- Duplication of effort



FORGE.mil

- Agile development and testing
- Cross-program sharing: software and services
- Early and continuous collaboration
- Integrated approach to development life cycle
- Extensible platform to support delivery of partner capabilities

HR 2647, National Defense Authorization Act for Fiscal Year 2010, Sec. 804.

*“The Secretary of Defense **shall develop and implement a new acquisition process for information technology systems**. The acquisition process developed and implemented pursuant to this subsection shall, to the extent determined appropriate by the Secretary —*

. . . be based on the recommendations in chapter 6 of the March 2009 report of the Defense Science Board Task Force on Department of Defense Policies and Procedures for the Acquisition of Information Technology; and

. . . be designed to include —

- 1. **early and continual involvement** of the user;*
- 2. **multiple, rapidly executed increments or releases** of capability;*
- 3. **early, successive prototyping** to support an evolutionary approach; and*
- 4. a **modular, open-systems** approach.*

High-Level Support



**Joint Chiefs of
Staff
Vice Chairman**
GEN James
Cartwright
*United States
Marine Corps*



**DISA
Director**
LTG Carroll F. Pollett
United States Army

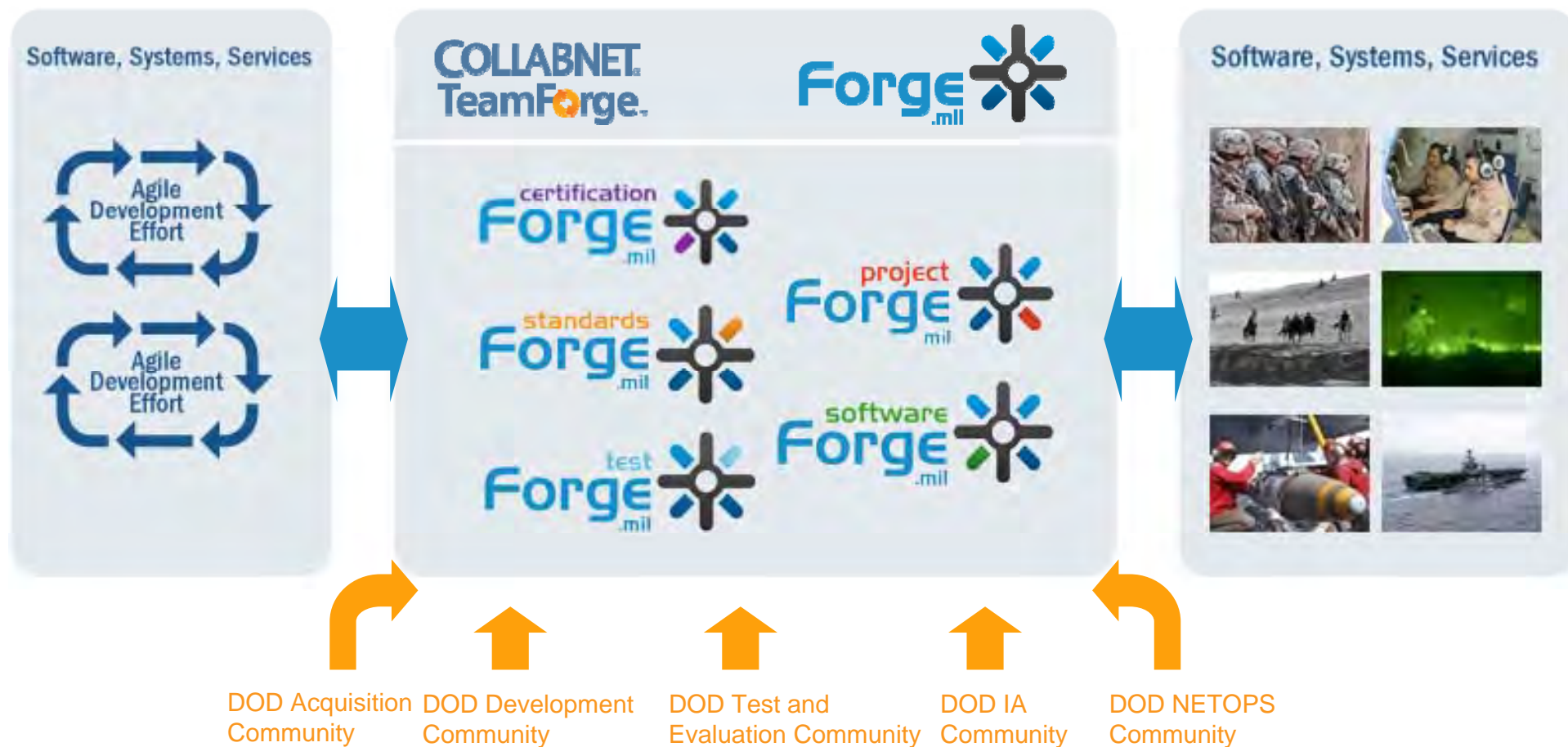


**DISA
Vice Director**
RADM Elizabeth A.
Hight (Ret)



**DISA
CTO & Principal
Director, GIG**
David Mihelecic

Forge.mil Community Approach



Application lifecycle management (ALM) services for the DoD Enterprise

Project management for distributed development teams



Tasking & alerts



Requirements management



Real-time reporting

Software development services



Source code management



Bug, Issue Tracking



Release management

Share software, best practices, information



Project wiki



Discussion forums



Document management



Free, collaborative development environment for internal open-source and DoD community source software

On-demand, fee-for-service development environment for individual programs and projects

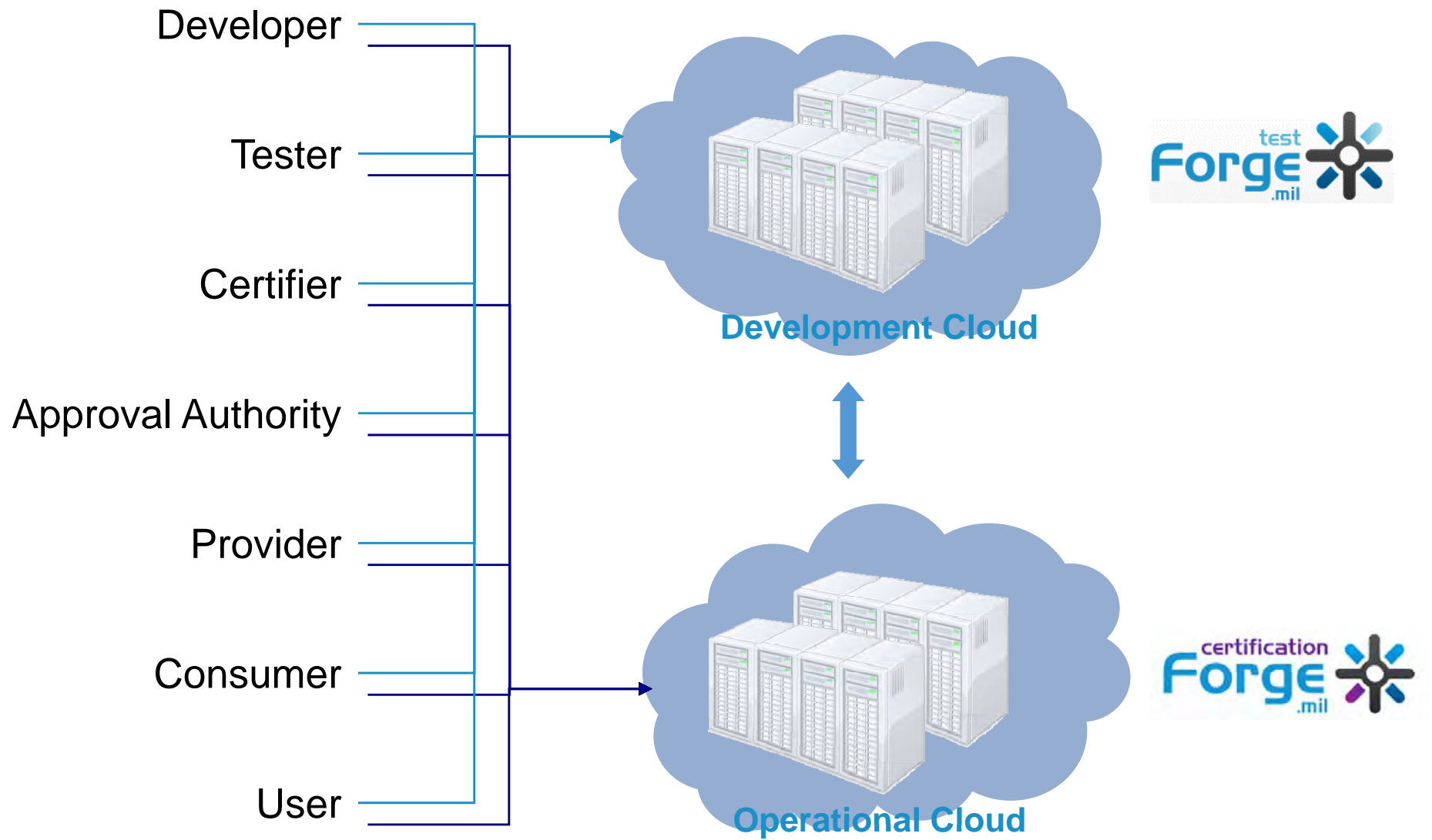
Multi-Tenant Environment

- Isolated project spaces for each customer
- Shared infrastructure

Private Environment

- Full environment dedicated to your program

Forge.mil Future Services



Toward Agile Development



Key Agile Principles

Focus on Customer Value – Align project, product, and team visions to deliver a better quality product – faster and cheaper

Small Batches – Create a flow of value to customers by “chunking” feature delivery into small increments

Small Integrated Teams – Intense collaboration via face-to-face communication, collaboration tools, etc.

Diversified Roles – Serve on integrated, self-organized, self-disciplined teams

Small, Continuous Improvements – Teams reflect, learn, and adapt to change; work informs the plan

Key Principles Deliver Agility

*The right product at the right time
at the right cost*

**Higher Quality: “Designed-to-fit”
product with flexibility to change**

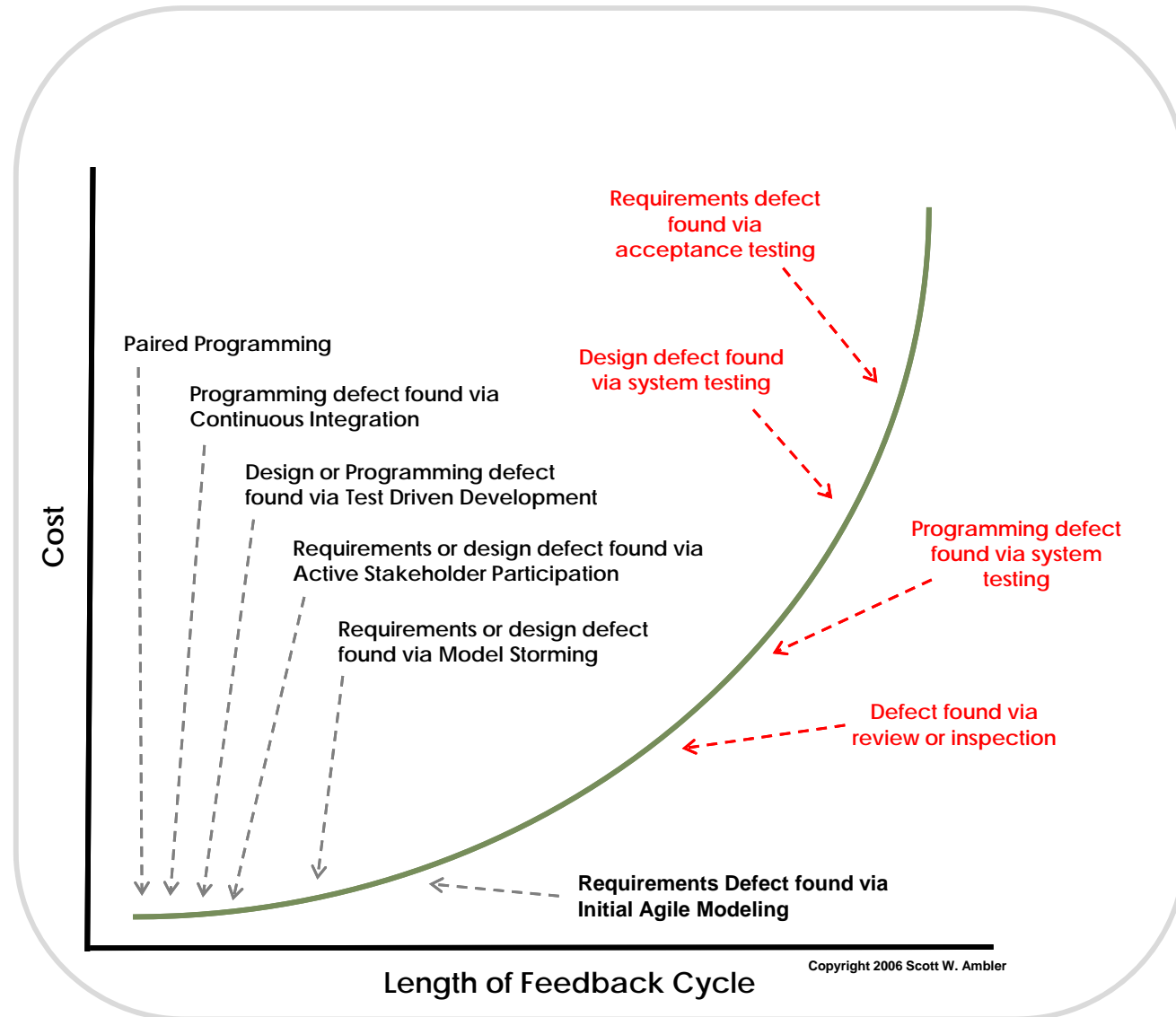
**Increased Bandwidth: Iterative
and incremental project and
product “chunks” to deliver value
earlier**

**Reduced Waste: Lean, efficient
processes which provide lower
costs and higher productivity**

Reducing the Cost of Change

Agile methods support experimentation & adaptation by reducing the **cost of change**

This is done by employing many concurrent, rapid feedback loops to surface and address issues, risks, and changes **early**

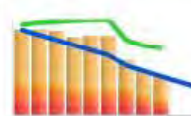



Artifacts


- Tracker Summary
- Forge Product Backlog

plan1007 : Iteration 35 Summary

Name: Iteration 35
Description:
Effort: 229 Estimated, 131 Remaining, 87 Actual
Start Date: 03/08/2010 **End Date:** 03/19/2010

P1: 9
P2: 17
P3: 13
P4: 42
P5: 0
None: 0



Open: 81
Closed: 47

Burndown
Open by priority
Open Vs Closed

Planning Folders

[New](#) [Edit](#)

- Root Folder
 - Story Backlog
 - Release 5
 - Release 6
 - Issues for PMO
 - Iteration 34
 - Iteration 35**
 - Iteration 36
 - Iteration 37
 - Iteration 38
 - Iteration 39
 - Iteration 40
 - Release 7

Iteration 35 Open only

<input type="checkbox"/>	Priority	Artifact ID	Title	Assigned To	Status	Planned For	Est	Rem	Act
<input type="checkbox"/>	1	artf7000	NUWC On Boarding	Walter Martinez	In Progress	Release 6 > Iteration 35 > Business Office	3	3	0
<input type="checkbox"/>	1	artf8808	Unfunded Requirement Input	Dale Partridge	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	2	artf8566	2012 POM exercise	Dale Partridge	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	2	artf8553	MIPR SPAWAR	John Patrick	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	2	artf8583	NPLACE BAA SOW review	John Patrick	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	2	artf7789	Service Level Agreement - CSD	John Patrick	In Progress	Release 6 > Iteration 35 > Business Office	3	3	0
<input type="checkbox"/>	3	artf8981	Coordinate ProjectForge CSD LE	John Patrick	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	3	artf8980	Coordinate SoftwareForge and Web CSD LE	John Patrick	In Progress	Release 6 > Iteration 35 > Business Office	3	0	0
<input type="checkbox"/>	3	artf8584	Onboarding IIB	John Patrick	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	3	artf8880	Onboarding NCES	Walter Martinez	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	3	artf8561	Onboarding-NUWC-Working 1144- and-Form 9	John Patrick	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	3	artf8562	Onboarding TARDEC	John Patrick	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	3	artf8575	Onboarding TRADOC	Walter Martinez	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0
<input type="checkbox"/>	4	artf5799	Automate Project Request form for Project Forge	Dale Partridge	In Progress	Release 6 > Iteration 35 > Business Office	0	0	0

CollabNet TeamForge V5.3

Benefits of Using Forge.mil

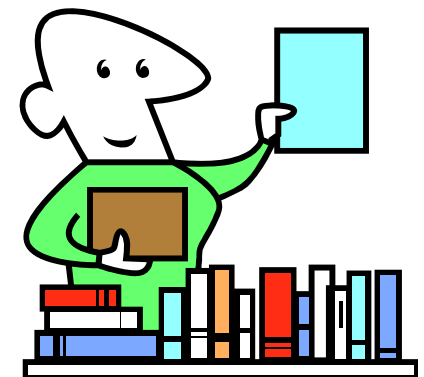


Forge.mil reduces administrative costs, increases productivity, and improves visibility. Key benefits include:

FOR DEVELOPERS	FOR MANAGERS	FOR EXECUTIVES
<ul style="list-style-type: none">• Access a full featured development platform over the web or directly from your IDE• Have fewer meetings and less administration when collaboration is part of everyday development• Link to continuous integration servers and provision build and test servers in the cloud whenever you need them	<ul style="list-style-type: none">• Speed new project startup• Secure access to project assets• Enhance team productivity and collaboration• Improve visibility into project status• Reduce management and administrative overhead• Access critical team assets via the web or your Microsoft Windows desktop	<ul style="list-style-type: none">• Consolidate and centralize to reduce administration, licensing, and infrastructure costs• Establish governance and regulatory compliance• Improve predictability of the development organization• Integrate easily into existing systems to extend return on investments

Community Challenges

- Hierarchical, process & command driven culture
- Extreme risk aversion (with good reason!)
- Heavy reliance on documents, in-person meetings, email
- Initiative & creativity encouraged within chain of command
- Skepticism of new processes/tools



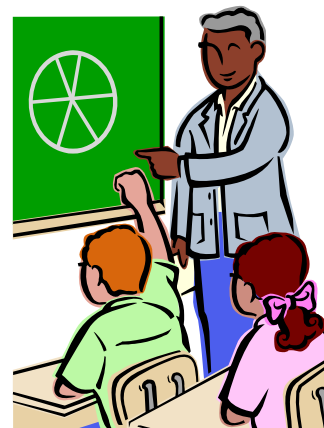
Community Lessons Learned

- Government community building is a 'contact sport'
- Both 'carrot' (grassroots) & 'stick' (top-down) needed
- Categorization (project, artifact, etc.) VERY important
- Documentation/process critical to acceptance
- Platform/tool MUST tie into email (notifications)
- “You can’t forklift a revolution...”

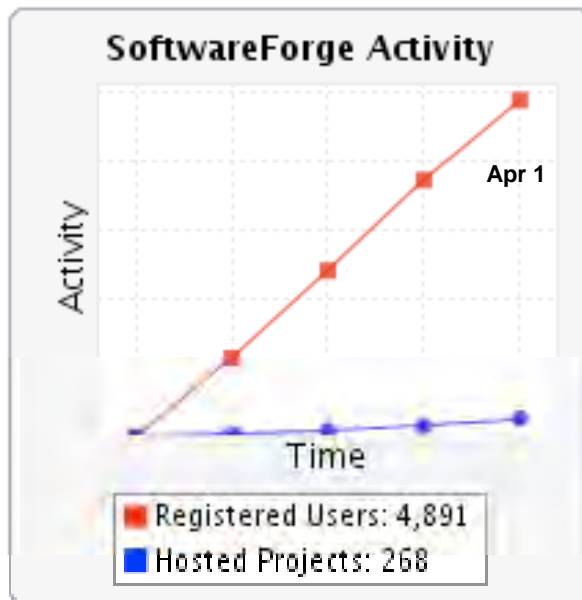


Community Lessons Learned

- Don't assume inquisitiveness
- FAQ lists are important (even if not read the first time)
- Seek out, support, & encourage community leaders
- Grow community efforts first around existing tools/tech
- Don't be afraid to use chain of command to jumpstart things
- Have realistic expectations



Collaborative/Community Victories



Sample Hosted Projects

Army

- **Apps 4 Army:** Innovation contest to develop new 'mashup's of Army data
- **Active Directory:** a collaborative space for code related to Active Directory management

Navy

- **Gargoyle:** a network activity monitoring and analysis system
- **NEP-O:** Naval Enterprise Portal Oceanography – Agile process used heavily
- **Vulnerator:** Aggregation of security readiness findings for systems

Air Force

- **AF EIM:** code supporting Air Force's Enterprise Information Management
- **UAS TSPI Server:** a common network interface to multiple UAS ground-stations for sensors requiring real-time telemetry source

Marine Corps

- **NECC C2 Alerting CM:** NECC Capability Module for C2 Alerting
- **MAGTF C2:** Marine Air Ground Task Force Command and Control

Joint Chiefs & DISA

- **NSLDSS:** National Senior Leader Decision Support Service
- **APEX:** Adaptive planning and execution – building plans & situational awareness
- **CommunityCAC:** CAC Utilities/Firefox plugin
- **DODBastille:** RHEL STIG lockdown utilities

Initial Forge.mil capability (April 2009)
supporting collaborative software
development & reuse

- Over **735** software releases available
- ~**30,000** software releases downloaded
- Over **8500** bugs/requirements tracked
- Over **6200** code checkins
- Over **1100** discussion posts

Next Steps



- **Get an account**
 - Navigate to <https://software.forge.mil> (requires a valid DoD CAC or ECA Certificate).
 - Under New Users, click on 'Create an Account'.
 - Your account is active once your email address is confirmed.
 - For info on ECA Certificates, see the FAQ – “How can I get access to Forge.mil” at <https://www.forge.mil>.
- **Use SoftwareForge** to learn, explore & understand the capabilities
- **Follow Getting Started Instructions**
 - Visit “Best of Forge.mil” featured projects in Forge.mil Demonstration Project
- **Learn/explore** in SoftwareForge test projects (Sandbox–1 and –2)
- **Attend a “How To” Webinar**
- **Register for Forge.mil Training at**
<http://www.carahsoft.com/collabnet/forgetraining/index.php>

Question & Answer



Forge.mil Business Office
businessoffice@forge.mil

Forge.mil Community Management
community@forge.mil

- ALM – Application Lifecycle Management
- CAC – Common Access Card
- DISA – Defense Information Systems Agency
- DoD – Department of Defense
- ECA – External Certificate Authority
- FAQ – Frequently Asked Questions
- IA – Information Assurance
- IDE – Integrated Development Environment
- NETOPS – Network Operations